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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/758,611	01/14/2004	David A. Stewart	ARC-14743-1	7529
25186 7590 02/05/2009 NASA AMES RESEARCH CENTER ATTN: PATENT COUNSEL MAIL STOP 202A-4 MOFFETT FIELD, CA 94035-1000				
EXAMINER				
LANGMAN, JONATHAN C				
ART UNIT		PAPER NUMBER		
1794				
NOTIFICATION DATE		DELIVERY MODE		
02/05/2009		ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

vickie.l.kent@nasa.gov

### Office Action Summary

**Application No.**

10/758,611

**Applicant(s)**

STEWART ET AL.

**Examiner**

JONATHAN C. LANGMAN

**Art Unit**

1794

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 17 November 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 3, 4, 6, 9-12 and 48 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 3, 4, 6, 9-12 and 48 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/S5108)  
Paper No(s)/Mail Date 8/26/2008
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 112*

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 3, 4, 6, 9-12 and 48 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

In claim 48, the applicant has not shown and the Examiner can not find support for the following:

- The applicant states that the first layer comprises between 5 and 70 percent tantalum disilicide. There is support to recite the presence of tantalum disilicide when there is only one layer on the substrate. However when the structure is a composite with multiple layers, the first layer is only taught within the specification to have molybdenum disilicide, borosilicate glass, and sintering aids ([0012]).
- In claim 48, the applicant states that “the composition of the second layer is chosen so that a CTE of the second layer is approximately the same as a CTE of the first layer”. There is no support for this recitation. The specification provides support for adjusting layer 510 (not a sub layer to be

adjusted for CTE to match that of layer 505 (the substrate) ([0035]). Or there is only support to recite that "the sub layer preferably closely matches the CTE of the substrate" ([0026]). There is no support for the CTE of the second layer to match the CTE of the first layer.

In claim 6, there is no support to recite that the sublayer comprises tantalum disilicide constituent.

Claims 3, 4, 6, and 9-12 are rejected for being dependent upon base rejected claim 48.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 3, 4, 6, 9-12, and 48 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 48, the applicant claims that the second layer comprises a processing aid such as silicon hexaboride. The phrase "such as" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Regarding claims 3 and 4, the second layer already requires a processing aid, so it is unclear as to how the second layer could **further** comprise a processing aid, or a processing aid comprising silicon hexaboride.

All other claims are rejected for being dependent upon a base rejected claim.

***Response to Arguments***

The Examiner thanks the applicant for breaking down and summarizing the invention. In the Response dated November 17, 2008, the applicant provides the summary as repeated here:

Substrate:

TaSi<sub>2</sub>: 5-70 %, 10-65 %, 25 %, 35 %, 45 %, 50 %, 60 %, 65 %  
MoSi<sub>2</sub>: 0-30 %, 5-30 %, 10 %, 15 %, 20 %, 25 %, 30 %  
BSi: 10-95 %, 20-45 %  
SiB<sub>6</sub>: 2.5 %

Sub-layer(s):

MoSi<sub>2</sub>: 20 %, 20-60 %, 55 %  
BSi: 40-80 %, 42.5 %, 77.5 %,  
SiB<sub>6</sub>: 1-5 %, 2.5 %,

Coating:

TaSi<sub>2</sub>: 35 %  
MoSi<sub>2</sub>: 20 %,

As claim 48 stands, the applicant claims in sequence:

Substrate: (per claim 10)

Fibrous open pore silica  
Silicon Carbide  
Aluminosilicate  
Silicon oxycarbide  
And Carbon

First Layer:

TaSi<sub>2</sub>: 5-70 %,  
MoSi<sub>2</sub>: 0-30 %, 5-30 %,  
BSi: 10-95 %,

Second Layer:

MoSi<sub>2</sub>: 20-60 %,  
BSi: 40-80 %,

SIB<sub>6</sub>

Therefore, as affirmed by the applicant, the applicant there is no support for the claim as instantly presented where the first layer must be between the second layer and the substrate. The Examiner can still find no support within the instant specification for the claim as presented, and the applicant has not sufficiently shown support for instant claim 48.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JONATHAN C. LANGMAN whose telephone number is

(571)272-4811. The examiner can normally be reached on Mon-Thurs 8:00 am - 6:30 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jennifer McNeil can be reached on 571-272-1540. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JCL

/Timothy M. Speer/  
Primary Examiner, Art Unit 1794